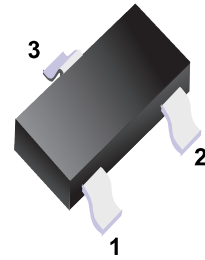


■ PNP Silicon Epitaxial Planar Transistor

for general purpose and switching applications



- 1.Base
- 2.Emitter
- 3.Collector

■ Simplified outline(SOT-323)

■ Absolute Maximum Ratings (T<sub>a</sub> = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	-V <sub>CBO</sub>	80	V
BC856W		50	
BC857W		30	
BC858W		30	
BC859W		50	
BC860W			
Collector Emitter Voltage	-V <sub>CEO</sub>	65	V
BC856W		45	
BC857W		30	
BC858W		30	
BC859W		45	
BC860W			
Emitter Base Voltage	-V <sub>EBO</sub>	5	V
Collector Current	-I <sub>C</sub>	100	mA
Peak Collector Current	-I <sub>CM</sub>	100	mA
Total Power Dissipation	P <sub>tot</sub>	200	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>Stg</sub>	- 55 to + 150	°C

**■ Characteristics at  $T_a = 25\text{ }^\circ\text{C}$** 

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $-V_{CE} = 5\text{ V}$ , $-I_C = 2\text{ mA}$	BC856AW~BC860AW $h_{FE}$ BC856BW~BC860BW $h_{FE}$ BC856CW~BC860CW $h_{FE}$	125 220 420	250 475 800	- - -
Collector Base Voltage at $-I_C = 10\text{ }\mu\text{A}$	BC856W BC857W BC858W BC859W BC860W $-V_{CBO}$	80 50 30 30 50	- - - - -	V
Collector Emitter Voltage at $-I_C = 10\text{ mA}$	BC856W BC857W BC858W BC859W BC860W $-V_{CEO}$	65 45 30 30 45	- - - - -	V
Emitter Base Voltage at $-I_E = 1\text{ }\mu\text{A}$	$-V_{EBO}$	5	-	V
Collector Base Cutoff Current at $-V_{CB} = 30\text{ V}$	$-I_{CBO}$	-	15	nA
Emitter Base Cutoff Current at $-V_{EB} = 5\text{ V}$	$-I_{EBO}$	-	100	nA
Collector Emitter Saturation Voltage at $-I_C = 10\text{ mA}$ , $-I_B = 0.5\text{ mA}$ $-I_C = 100\text{ mA}$ , $-I_B = 5\text{ mA}$	$-V_{CE(sat)}$	- -	0.3 0.65	V
Base Emitter Voltage at $-V_{CE} = 5\text{ V}$ , $-I_C = 2\text{ mA}$ $-V_{CE} = 5\text{ V}$ , $-I_C = 10\text{ mA}$	$-V_{BE}$	0.6 -	0.75 0.82	V
Transition Frequency at $-V_{CE} = 5\text{ V}$ , $-I_C = 10\text{ mA}$ , $f = 100\text{ MHz}$	$f_T$	100	-	MHz
Output Capacitance at $-V_{CB} = 10\text{ V}$ , $I_E = 0$ , $f = 1\text{ MHz}$	$C_{ob}$	-	4.5	pF

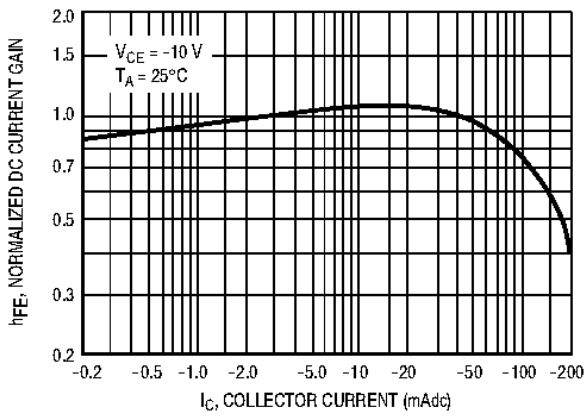


Figure 1. Normalized DC Current Gain

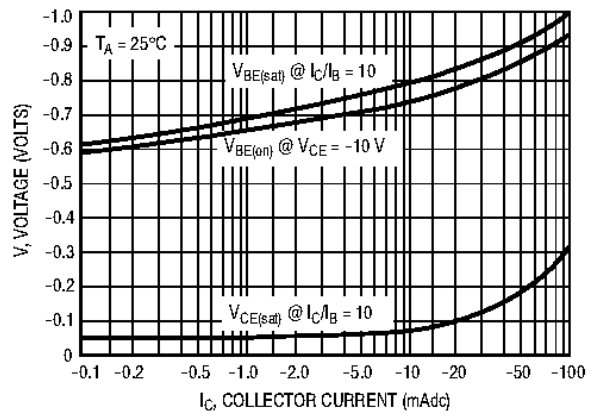


Figure 2. "Saturation" and "On" Voltages

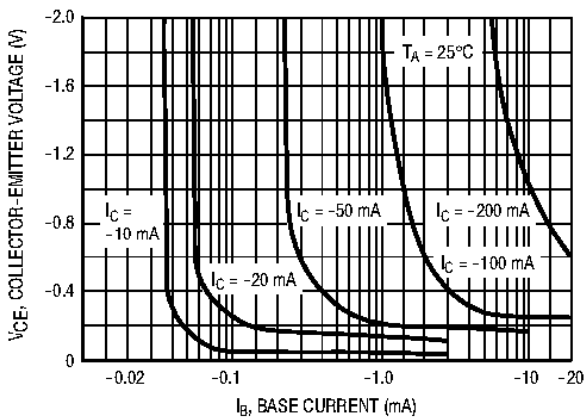


Figure 3. Collector Saturation Region

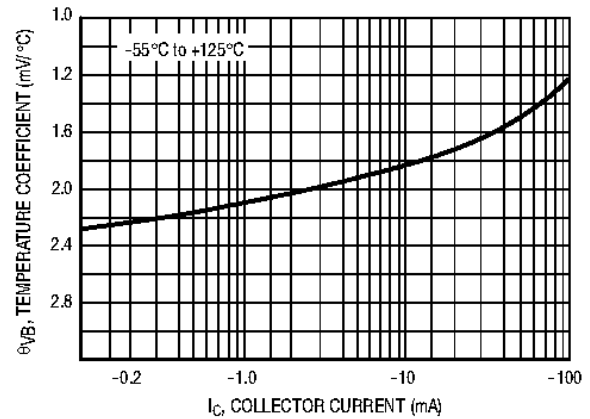


Figure 4. Base-Emitter Temperature Coefficient

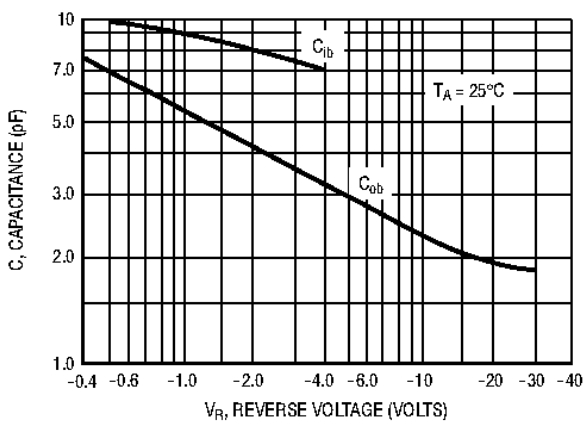


Figure 5. Capacitances

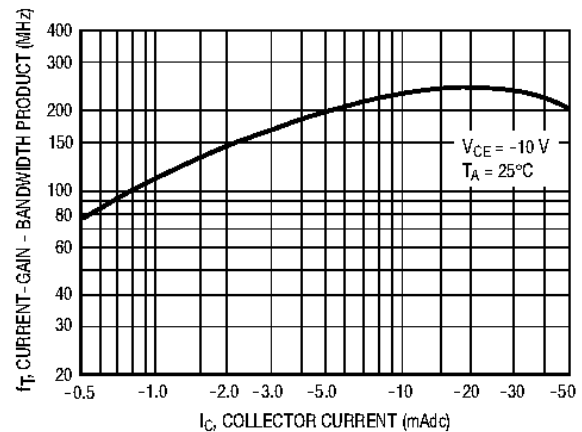


Figure 6. Current-Gain - Bandwidth Product

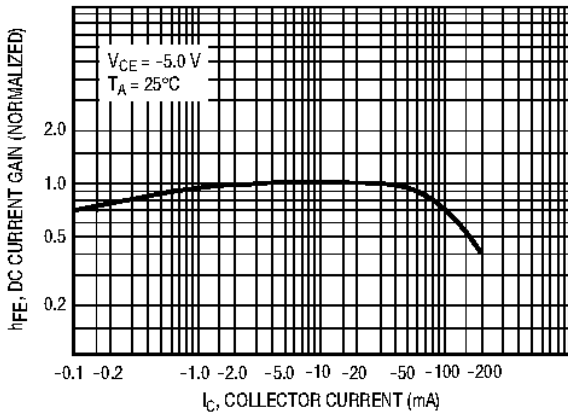


Figure 7. DC Current Gain

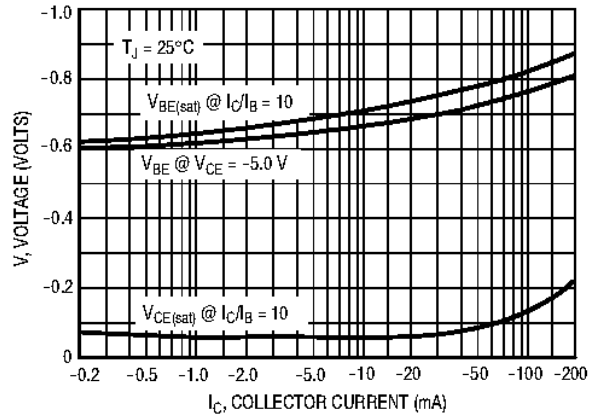


Figure 8. "On" Voltage

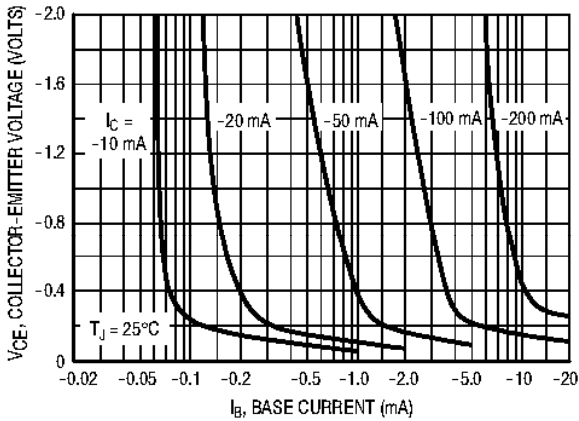


Figure 9. Collector Saturation Region

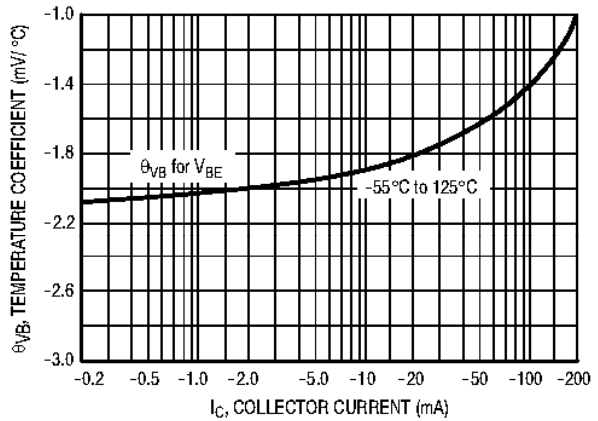


Figure 10. Base-Emitter Temperature Coefficient

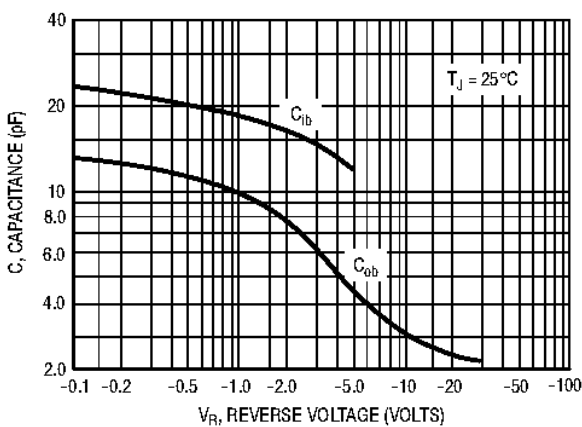


Figure 11. Capacitance

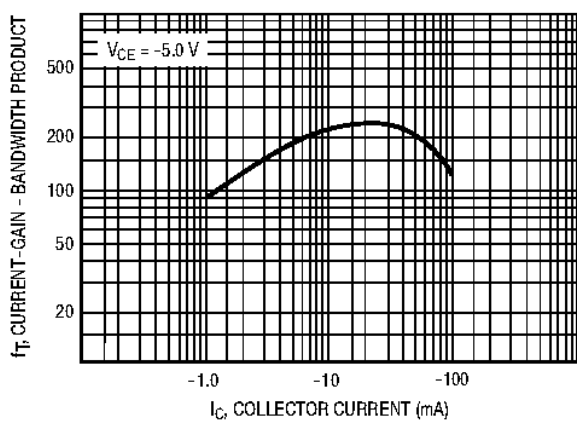
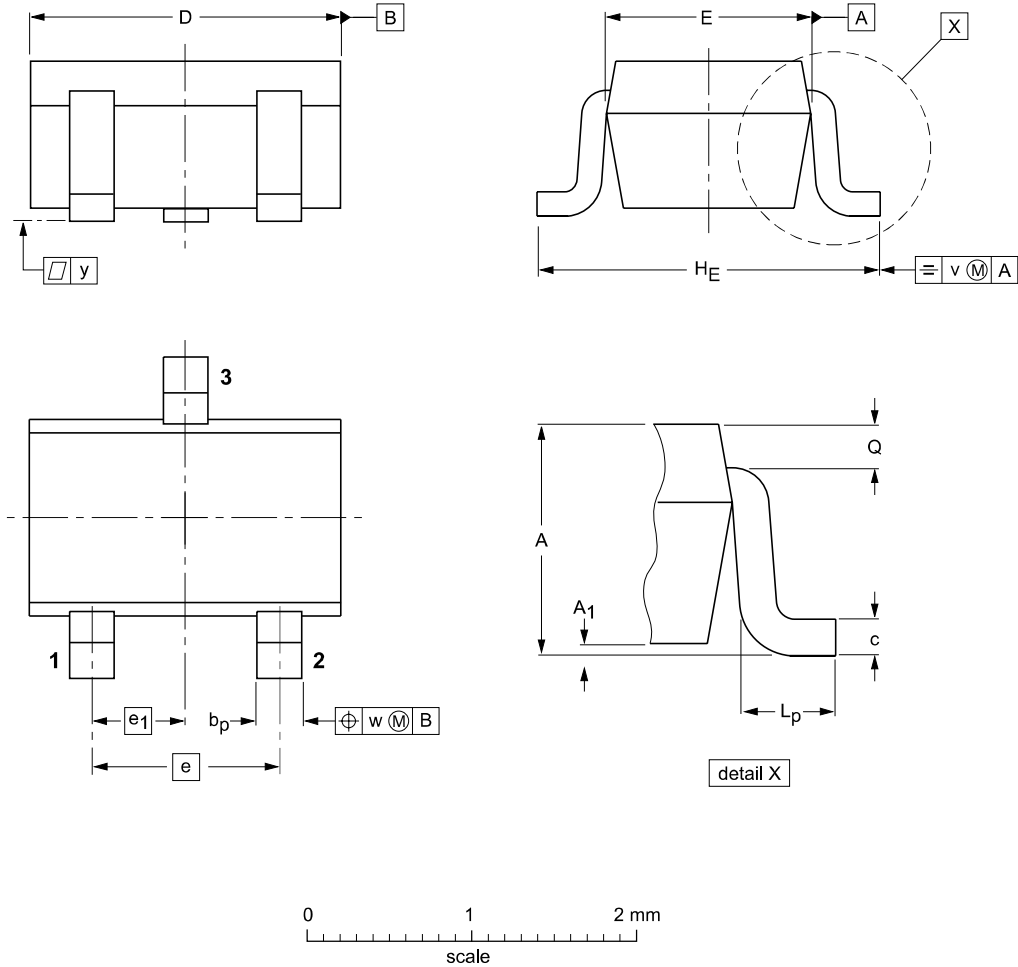


Figure 12. Current-Gain - Bandwidth Product

Package Outline

SOT-323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub> max	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.1 0.8	0.1	0.4 0.3	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.23 0.13	0.2	0.2

Summary of Packing Options

Package	Package Description	Packing Quantity	Industry Standard
SOT-323	Tape/Reel, 7" reel	3000	EIA-481-1

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